A MANUAL OF NORMAL HISTOLOGY AND ORGANOGRAPHY. By CHARLES HILL, PH.D., M.D., Professor of Histology and Embryology, Chicago Veterinary College, formerly Assistant Professor of Histology and Embryology, Northwestern University Medical School, Chicago. Third edition. Pp. 483; 312 illustrations. Philadelphia: W. B. Saunders Company, 1914.

THIS is a reprint, with a few additions, of the second edition published in 1909. Brief descriptions are given of the ruminant stomach and the equine hoof, but otherwise the character of the book is little changed. It remains as before, a simply written and not too condensed account of human histology, drawn chiefly from other text-books, and is a useful and trustworthy book for the student who wishes to learn the main facts of the subject.

W. H. F. A.

CUNNINGHAM'S MANUAL OF PRACTICAL ANATOMY. Revised and Edited by ARTHUR ROBISON, Professor of Anatomy in the University of Edinburgh. Sixth edition. Pp. 650; 240 illustrations in the text, 22, of which 6 are in colors, in the first volume; pp. 621, 260 illustrations and 11 plates in the second volume. New York: William Wood & Co., 1904.

THE term practical anatomy is employed here in a restricted sense. All anatomy is practical to somebody, but, generally, the term applies to that anatomy which is most useful in the daily work of the practising physician, surgeon, or other specialist. But no book can include all that is important on this phase of the subject. The whole subject of anatomy can be most comprehensively treated systematically, or in systems, as the osseous, circulatory, nervous, etc. As soon as one departs from this method and attempts to apply the anatomical facts thus compiled to the needs of the healing art, insurmountable difficulties are encountered in comprehending the whole field. The facts themselves are fairly definite and limited, but the applications that may be made of these facts are without limit. Thus the need of a practical knowledge of anatomy has given rise to a variety of methods of presenting the important facts. Regional, topographical, surface, surgical, and applied anatomy emphasizes various practical phases. Applied anatomy carries anatomy into the discussion of clinical conditions, and must be arbitrarily restricted by the writer or teacher to what he regards as most important.

These two small volumes are practical in the sense that they serve as a guide to the dissection of the cadaver, than which there is no more generally practical method of studying anatomy. It is confined to gross anatomy but covers the whole field for the dissector. For this purpose we probably have no better work. It is comprehensive and excellently illustrated, many of the illustrations being in colors. Twenty-seven roentgenograms are employed to emphasize certain anatomical facts. The text of this the sixth edition has been altered, some figures changed, others replaced, and new ones introduced. The chief alterations have been made in the section on the brain, which has been rearranged and largely rewritten. The student will make no mistake in purchasing this book, and the practitioner who desires to renew his acquaintance with the details of gross anatomy will find it suited to his purpose. T. T. T.

THE GERM-CELL CYCLE IN ANIMALS. By ROBERT W. HEGNER, PH.D., Assistant Professor of Zoölogy in the University of Michigan. Pp. 346; 84 illustrations. New York: The Macmillan Company, 1914.

FOLLOWING the publications of Schleiden and Schwann (1838 and 1839) on the cellular structure of plants and animals, Owen (1849), among others, pointed out the existence of the two great groups of cells in the body, viz., germ cells and somatic or body cells. It was his theory that of the progeny of the impregnated ovum, certain cells were early set aside from which the reproductive cells of the matured individual were to be derived, while the remainder of the cells continued to multiply and differentiate to form the various organs of the body. Later, Jäger (1877) and Weismann (1885) stated more emphatically, and with important variations, the idea of continuity of the germ plasm. In the succeeding interval as the result of much intensive study, many of the details in the history of the reproductive cells have been substantiated by actual observation, but for other stages, in many forms of animals, a definite basis for judgment is still lacking and differences of opinion exist. The aim of the present book is to bring together the results of many investigators with the view of correlating them as far as possible into a continuous history of the germ-cell cycle. Much of the book is, therefore, concerned with details of a highly technical cytological character.

Some of the problems dealt with are: how soon can the germ cells be recognized in the early stages of the embryo; where do these cells exist before the definite sexual glands develop; the changes concerned in the final maturation of the sex cells in the mature organism. The part to which the author has given most attention is the segregation of the germ cells in the developing embryo and the visible substances concerned in this process. The most definite results in all these problems have been achieved in the invertebrates,